

WHAT IS CLAIMED IS:

1. A laser driving method for driving a laser light source for emission,
wherein a first power-supply voltage supplied to a laser driving circuit for driving the laser light source for emission is made higher than a second power-supply voltage supplied to circuits except the laser driving circuit.
2. The laser driving method as claimed in claim 1, wherein the laser light source is a short-wavelength semiconductor laser with a violet laser beam.
3. The laser driving method as claimed in claim 1, wherein the operating voltage of the laser light source is detected and the first power-supply voltage is controlled on the basis of the detected operating voltage.
4. The laser driving method as claimed in claim 3, wherein the first power-supply voltage is controlled on the basis of a voltage obtained by adding the operating voltage to a voltage necessary for the laser driving circuit.
5. The laser driving method as claimed in claim 3, wherein the first power-supply voltage is decided on the basis of the operating voltage in writing.
6. The laser driving method as claimed in claim 3, wherein the first power-supply voltage is decided on the basis of a value obtained by adding the difference between the operating voltages in writing and reading to the operating voltage in reading.
7. The laser driving method as claimed in claim 6, wherein the difference between the operating voltages in writing and reading uses a value obtained by measuring in advance, as a fixed value.

8. The laser driving method as claimed in claim 6, wherein the difference between the operating voltages in writing and reading uses a value obtained by measuring when turning on the power supply.

9. The laser driving method as claimed in claim 3, wherein the first power-supply voltage is decided on the basis of the operating voltage in writing and the operating voltage in reading.

10. The laser driving method as claimed in claim 3, wherein when turning on the power supply or when inserting a recording medium, the first power-supply voltage is initially set on the basis of the maximum operating voltage of the laser light source and is controlled on the basis of the operating voltage of the laser light source detected in writing and/or reading.

11. The laser driving method as claimed in claim 3, wherein when turning on the power supply or when inserting a recording medium, the first power-supply voltage is initially set on the basis of the minimum operating voltage of the laser light source and is controlled on the basis of the operating voltage of the laser light source detected in writing and/or reading.

12. The laser driving method as claimed in claim 3, wherein when turning on the power supply or when inserting a recording medium, the first power-supply voltage is initially set on the basis of the operating voltage determined in the previous operation and is controlled on the basis of the operating voltage of the laser light source detected in writing and/or reading.

13. The laser driving method as claimed in claim 1, wherein the first power-supply voltage is switched between reading and writing.

14. The laser driving method as claimed in claim 1, wherein in the case where the power of a driving pulse of the laser light source takes a plurality of values, the number of laser driving circuits supplied with the first power-supply voltage is made less than the number of control circuits for controlling the power of the plurality of values.

15. The laser driving method as claimed in claim 1, wherein when the laser light source does not operate, the supply of the first power-supply voltage to the laser driving circuit is stopped, and when the laser light source makes no operation for a predetermined time, the supply of the second power-supply voltage to the other circuits is stopped.

16. The laser driving method as claimed in claim 1, wherein at least a first laser light source driven by a laser driving circuit supplied with the first power-supply voltage and a second laser light source driven by a laser driving circuit supplied with the second power-supply voltage are provided, and when the first laser light source does not operate, the supply of the first power-supply voltage is stopped.

17. A laser driving device for driving a laser light source for emission,
wherein a first power-supply voltage supplied to a laser driving circuit for driving the laser light source for emission is made higher than a second power-supply voltage supplied to circuits except the laser driving circuit.

18. The laser driving device as claimed in claim 17, wherein the laser light source

is a short-wavelength semiconductor laser with a violet laser beam.

19. The laser driving device as claimed in claim 17, comprising detection means for detecting the operating voltage of the laser light source, wherein the first power-supply voltage is controlled on the basis of the operating voltage from the detection means.

20. The laser driving device as claimed in claim 19, wherein the first power-supply voltage is controlled on the basis of a voltage obtained by adding the operating voltage to a voltage necessary for the laser driving circuit.

21. The laser driving device as claimed in claim 19, wherein the first power-supply voltage is decided on the basis of the operating voltage in writing and/or reading.

22. The laser driving device as claimed in claim 19, wherein when turning on the power supply or when inserting a recording medium, the first power-supply voltage is initially set on the basis of a predetermined operating voltage of the laser light source and is controlled on the basis of the operating voltage of the laser light source detected in writing and/or reading.

23. The laser driving device as claimed in claim 17, wherein the first power-supply voltage is switched between reading and writing.

24. The laser driving device as claimed in claim 17, wherein in the case where the power of a driving pulse of the laser light source takes a plurality of values, the number of laser driving circuits supplied with the first power-supply voltage is made less than the number of control circuits for controlling the power of the plurality of values.

25. The laser driving device as claimed in claim 17, wherein when the laser light

source does not operate, the supply of the first power-supply voltage to the laser driving circuit is stopped, and when the laser light source makes no operation for a predetermined time, the supply of the second power-supply voltage to the other circuits is stopped.

26. A recording/reproducing device for casting a laser beam from a laser light source onto a recording medium to carry out recording and/or reproduction,

wherein a first power-supply voltage supplied to a laser driving circuit for driving the laser light source for emission is made higher than a second power-supply voltage supplied to circuits except the laser driving circuit.

27. The recording/reproducing device as claimed in claim 26, wherein the laser light source is a short-wavelength semiconductor laser with a violet laser beam.

28. The recording/reproducing device as claimed in claim 26, comprising detection means for detecting the operating voltage of the laser light source, wherein the first power-supply voltage is controlled on the basis of the operating voltage from the detection means.

29. The recording/reproducing device as claimed in claim 28, wherein the first power-supply voltage is controlled on the basis of a voltage obtained by adding the operating voltage to a voltage necessary for the laser driving circuit.

30. The recording/reproducing device as claimed in claim 28, wherein the first power-supply voltage is decided on the basis of the operating voltage in writing and/or reading.

31. The recording/reproducing device as claimed in claim 28, wherein when turning on the power supply or when inserting a recording medium, the first power-supply voltage is initially set on the basis of a predetermined operating voltage of the laser light source and is controlled on the basis of the operating voltage of the laser light source detected in writing and/or reading.

32. The recording/reproducing device as claimed in claim 26, wherein the first power-supply voltage is switched between reading and writing.

33. The recording/reproducing device as claimed in claim 26, wherein in the case where the power of a driving pulse of the laser light source takes a plurality of values, the number of laser driving circuits supplied with the first power-supply voltage is made less than the number of control circuits for controlling the power of the plurality of values.

34. The recording/reproducing device as claimed in claim 26, wherein when the laser light source does not operate, the supply of the first power-supply voltage to the laser driving circuit is stopped, and when the laser light source makes no operation for a predetermined time, the supply of the second power-supply voltage to the other circuits is stopped.

35. A recording/reproducing method for casting a laser beam from a laser light source onto a recording medium to carry out recording and/or reproduction,

wherein a first power-supply voltage supplied to a laser driving circuit for driving the laser light source for emission is made higher than a second power-supply

voltage supplied to circuits except the laser driving circuit.

36. The recording/reproducing method as claimed in claim 35, wherein the laser light source is a short-wavelength semiconductor laser with a violet laser beam.

37. The recording/reproducing method as claimed in claim 35, wherein detection means for detecting the operating voltage of the laser light source is provided and the first power-supply voltage is controlled on the basis of the operating voltage from the detection means.

38. The recording/reproducing method as claimed in claim 37, wherein the first power-supply voltage is controlled on the basis of a voltage obtained by adding the operating voltage to a voltage necessary for the laser driving circuit.

39. The recording/reproducing method as claimed in claim 37, wherein the first power-supply voltage is decided on the basis of the operating voltage in writing and/or reading.